Silicone Heat Transfer Compound Plus

TECHNICAL DATA SHEET

Product Code: HTSP

PRODUCT DESCRIPTION

HTSP provides the ultimate in thermal conductivity together with the very wide temperature range obtained by using silicone base oils. The exceptional properties obtained from HTSP are due to the novel use of various metal oxide (ceramic) powders. These materials are electrically insulative to ensure that leakage currents can not be formed if the paste should come into contact with other parts of the assembly.

HTSP should be used where a large amount of heat needs to be dissipated quickly and effectively. The heat dissipation from the source (e.g. semiconductor barrier layer) is achieved through many layers of different material before the heat is dissipated through free or forced convection. It should be noted that the use of a thermally conductive paste will only aid the dissipation of heat if the interface where it is used has the lowest thermal conductivity within the system, i.e. is the rate determining step. This is usually the case.

The rate at which heat flows is dependant on the temperature differential, the thickness of the layer, and the thermal conductivity of the material.

A full range of heat transfer products are available from Electrolube. This range includes silicone and non-silicone based pastes (HTS & HTC), an RTV rubber (TCR), an adhesive epoxy (TBS) and an epoxy based potting resin (ER2074).

A non-silicone version of this material is also available, order code HTCP.

FEATURES

* Superior thermal conductivity even at high temperatures.
* Excellent non-creep characteristics.
* Wide operating temperature range with low evaporation weight loss.
* Easy to handle, economic in use and low in toxicity.

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TYPICAL PROPERTIES

Colour:	White
Base:	Silicone Oil
Thermoconductive Components:	Powdered Metal Oxides
Density @ 20°C:	3 g/cm^3
Temperature Range:	-50°C to +200°C
Thermal Conductivity:	3.0 W/m.K
Weight Loss after 96 hours @ 100°C:	= 0.80%
Permitivity @ 10^6 Hz:	4.9
Specific Resistance:	1 x 10^{15} Ohms/cm
Dielectric Strength:	18 kV/mm
Viscosity:	Paste

DIRECTIONS FOR USE

Apply in a thin film, to the base and mounting studs of diodes, transistors, thyristors, heat sinks, silicone rectifiers and semi-conductors, thermostats, power resistors and radiators.

PACKAGING

50 ml Tube (150g)
1 Kg Bulk

ORDER CODE

HTSP50T
HTSP01K

ADDITIONAL INFORMATION

Some useful conversion factors are as follows:

1 cal	=	0.003968 BTU (British Thermal Unit)
1 cal/cm x sec x K	=	0.04964 BTU/in x h x ?F
	=	416.8 W/m x K
1 BTU/h x ft x ?F	=	12 BTU x in/h x sq ft x ?F
	=	0.04134 cal/sec x cm x K
1 BTU x in/h x sq ft x F?	=	0.0003445 cal/sec x cm x K
	=	0.1437 W/m x K
1 BTU/h x ft x ?F	=	1.724 W/m x K
1 W/in x K	=	22.75 BTU/h x ft x ?F
1 cal/sec x cm	=	10.6 W/in x K

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